SACRAMENTO STATE
COLLEGE OF CONTINUING EDUCATION

COUNTY DROUGHT ADVISORY GROUP

Meeting 2

FEBRUARY 27, 2019

Meeting Objectives:

- Share compilation of factors and data sources based on feedback provided by CDAG at the first meeting
- Review and solicit CDAG feedback on literature review findings

Welcome and Introductions

Nirmala Benin, Senior Engineer, Drought Contingency Planning and Special Projects section of the Water Use and Efficiency branch, California Department of Water Resources (DWR), welcomed participants to the second meeting of the County Drought Advisory Group (CDAG). She noted the value of their input and thanked participants for their commitment to the process.

Arthur Hinojosa, Chief of the Division of Integrated Regional Water Management (IRWM), DWR, thanked CDAG members for their participation. He noted that recent legislation (AB 1668 and SB 606) creates an opportunity for the State to comprehensively examine how drought can be addressed at the State level and the linkages among issues such as water supply and water quality. Solutions must be implementable from the State perspective and manageable from the local perspective, taking into account how counties operate and how communities communicate with county governments. Mr. Hinojosa noted that CDAG members have an opportunity to help the State develop a robust plan.

Ms. Benin introduced the DWR project team and collaborators from the State Water Resources Control Board (SWRCB) and the Office of Environmental Health Hazard Assessment. She noted that DWR is also working with Indian Health Service (IHS), which has already completed an assessment that identified vulnerabilities to drought among federally-recognized Tribes.

Ms. Benin reiterated that CDAG was formed to inform and advise DWR and State agencies as they implement two actions:

1. Identifying small suppliers and rural communities at risk of drought and susceptible to water shortage vulnerability
2. Developing recommendations and guidance to the Governor and Legislature relating to the development and implementation of countywide drought and water shortage contingency plans (WSCPs) for improving drought contingency planning for those areas.

Ms. Benin reviewed the agenda, which included presentations and discussions on vulnerability factors and risk indicators and on literature review findings.

Presentation: Vulnerability Factors and Risk Indicators

Julia Ekstrom, Senior Environmental Scientist, Climate Change Program, Division of IRWM, DWR, reviewed the concept of risk and summarized the feedback, provided by CDAG members, about drought risk during Meeting 1.

The goals of the legislation that led to the formation of CDAG are to (i) identify the communities and suppliers at risk to water shortage and drought and (ii) provide recommendations about how to reduce risks and vulnerabilities. The recommendations will be provided to the State legislature and governor as well as counties and cities around the State.

The assessments that will inform the recommendations apply to non-urban water suppliers, which include small water suppliers, rural communities with under five service connections, private domestic supplied communities, and Tribes. The small water suppliers are grouped based on the number of service connections: 5-15 service connections, 15-200 service connections, and 200-3000 service connections.

There are three common components in disaster risk management – hazard, vulnerability, and exposure – which are used to identify who and what is at risk. The issues raised during Meeting 1 in December 2018 were processed to identify the factors that influence risk levels. The "risk factors" at the core of each issue raised were identified, potential metrics to measure the risk factors were proposed, and existing datasets that address those metrics were identified. The risk factors were organized into external factors, which are those that have wide ranging influence, and internal factors, which are specific to the type of water suppliers. These were further divided into physical and social factors.

External physical factors include conditions and events that can affect any water supplier:

- Episodic stress
- Source vulnerabilities
- Source water contamination

External social factors include institutional stressors such as external regulatory burdens and implications of the Sustainable Groundwater Management Act (SGMA).

Internal physical vulnerabilities for small suppliers include physical infrastructure issues:

- Source resilience
- Physical alternatives
- Physical infrastructure

Internal social vulnerabilities for small suppliers include social, organizational, and institutional factors:

- Financial
- Relationships
- Adaptive capacity
- Organizational, political
- Customer base
- Staff capacity

Internal physical factors for domestic-supplied communities include physical infrastructure:

- Source portfolio
- Coping capacity
- Sensitivities

Internal social vulnerabilities include social and organizational factors:

- Population characteristics
- Capacity

Following the presentation, participants offered the following questions and comments about the small discussion process and presentation content:

A participant asked whether it would be possible to participate in more than one breakout group. Ms. Ekstrom said that the discussion was not organized for participation in multiple breakouts because the content to be covered in each group would likely require the full hour of discussion, but that participants were welcomed to move to a different group at any point.

A participant asked how the development of risk indicators and identification of vulnerable communities would be used. DWR staff responded that the legislation requires that the list of vulnerable communities be made public and provided to counties, cities, and groundwater sustainability agencies. DWR and other State agencies will be able to utilize the information to identify where to focus resources, and it is hoped that the legislature will develop next steps once they have this information. CDAG can also make recommendations about what else should be done with the final list.

A participant who works with IHS noted that developing a method for prioritizing vulnerable communities was challenging, even once risk factors and their measures have been identified. DWR staff affirmed this challenge and noted that a technical subgroup would discuss options to address this challenge, including review of test cases to determine whether there is consensus between methods. Participants were invited to join the subgroup.

A participant said that in many communities, the status of the risk factors listed is not static and will likely change over time. The participant asked whether metrics that change less over time would be preferred and how the system would account for temporal changes in risk level. DWR staff said that this has not yet been determined but there may be a way to indicate risk levels

based on factors that are likely to change versus constraints to changing risk levels based on factors that cannot change, such a geology. The staff person also noted that the current legislation mandates only the initial identification of vulnerable communities but that legislation calling for updates to the list may be proposed at a later date.

A participant said that there are places around the State where solutions have already been developed for drought risk reduction and contingency planning and suggested that these be reviewed. DWR staff thanked the participant for the suggestion and asked him to follow up with any additional information.

A participant noted that the SWRCB is conducting Needs Assessment workshops and that there is an opportunity to leverage the resources of their efforts around sampling domestic wells.

A participant said that risk assessment should encompass areas outside of the groundwater basins as defined by SGMA. DWR staff noted that the project covers all water users who are not already covered by an Urban Water Shortage Contingency Plan (WSCP).

A participant said that risk assessment is a very local matter and suggested that what is needed is a framework for risk assessment to be conducted locally. The participant noted that although counties have an obligation to help communities, the water supply systems that serve communities are often outside of county authority. DWR staff affirmed that a key challenge is to distill recommendations such that they will be relevant and useful in a variety of contexts. They also said that the benefit of offering a starting point of risk assessment is that counties, groundwater sustainability agencies (GSAs), and other local groups will be aware of those communities that are at higher risk and can target assistance during periods of water shortage. The participant said that it is important to clarify roles and responsibilities up front to inform interactions among individual water systems, cities, counties, and the State.

Vulnerability Factors and Risk Indicators – Small Group Discussions

Participants divided into the following six groups to discuss the risk factors listed above as well as potential metrics and datasets to determine related vulnerability:

- Tribal households and systems
- Domestic/Self supplied communities
- State small water systems with 5-14 service connections
- Community water systems with 15-200 service connections
- Community water systems with 200-3000 service connections
- External physical factors

Each group was provided with listings of relevant risk factors and vulnerabilities and their related metrics and datasets and was asked to discuss the following:

- What is missing from these tables?

- What are the top three priorities to include in the initial risk analysis?

Because the IHS has already created a vulnerability index for Tribal communities, the Tribal group discussed all five tables, considering the additional question of how the IHS index can contribute to DWR's effort and how DWR's effort can contribute to the existing index.

The three small/community water systems groups discussed the same set of tables, but each from the perspective of a different size of water system.

Report Back and Additional Feedback – Vulnerability Factors and Risk Indicators

After discussing in small groups for one hour, the CDAG reconvened for a report back about their discussions. Each of the six groups noted which risk factors they had identified as the top three priorities to include in the initial risk analysis.

The External Physical Factors group prioritized risk factors related to drought risk, projected areas of reduced water availability, and declining groundwater levels. The group noted that groundwater level data that extends to 2017 may show an increase from the lowest years during the drought in certain locations, suggesting that levels between 2011 and 2017 be evaluated rather than a simple measure of change between 2011 and 2017.

The State Smalls (5-14 service connections) group prioritized isolation of State small water systems, need for increased statutory responsibility to identify and monitor State small water systems, and small customer base. The group noted that local health officers currently have responsibility, but there is no oversight from a State-level agency nor a statewide database. The group suggested funding mechanisms to support identification and monitoring of State small water systems, including fee-based funding.

The Community Water Systems group for 15-200 service connections prioritized financial capacity, regulatory requirements, physical infrastructure, source resilience, and depth of wells and depth to groundwater. The group emphasized that financial capacity is the most critical, because other priorities cannot be addressed if financial capacity is missing.

The Community Water System group for 200-3000 service connections prioritized a set of social risk factors and a set of physical risk factors. Priorities for the social risk factors include rate structure and financial capacity, political will to take risks to meet needs, and staff capacity. Priorities for the physical vulnerabilities factors include physical alternatives, such as system scale and availability of water transfers; physical infrastructure such as water distribution system control, energy source reliability, and water loss control; and source portfolio, including water quality, local and regional sources, and reliance on imported water sources. Regarding the project as a whole, the group noted that many of the risk factors and indicators among the comprehensive list will not be measurable, and that it is critical to verify that the indicators which are measurable indeed correlate with drought risk during the last

drought. For example, did the systems with flaws in their rate structure have challenges during the last drought?

The Tribal Households and Systems group noted that Tribes encompass a variety of combinations of the system configurations identified. The priorities of the Tribal group include the need to work with Tribal governments to help them understand the problem of drought, lack of baseline monitoring and a need for technical staff to develop baseline information and make informed decisions down the line, multiple emergencies such as fire and drought, projections into the future of areas of reduced water availability, homeowner technical knowledge and information about where homeowners are located, and history of outages for domestic homeowners. The group noted that some of the risk factors presented at this meeting were not yet included in the IHS report and that integration between this project and the IHS effort will be beneficial.

The Domestic/Self-Supplied Communities group (less than 5 service connections) prioritized a set of physical risk factors and a set of social risk factors. Priorities for physical factors include lack of data to determine where domestic/self-supplied communities are located and the quality of their water; physical coping capacity, especially consolidation potential; and sensitivity of well locations to reduced availability. Priorities for social factors include community demographics and capacity, especially funding availability and technical knowledge. A participant asked whether the group had considered households that are self-supplied by surface water. The group affirmed the importance of considering how similar or different the needs and risks of surface water versus groundwater self-supplied households are, but also noted that there is a much smaller population of domestic/self supplied households that rely on surface water.

Ms. Ekstrom said that the prioritization exercise will help determine where to begin, but affirmed that there are important dynamics related to each of the risk factors which will be considered. She reminded participants that they could join the technical subgroup in order to delve deeper into details about the process of identifying communities at risk of water shortages.

Presentation: Literature Review Findings

Ms. Benin reviewed the findings of a literature review that will contribute to the second CDAG goal – developing recommendations and guidance to the Governor and legislature relating to the development and implementation of countywide drought and WSCPs for improving drought contingency planning for the suppliers and communities at risk of drought and water shortage vulnerability. The deliverable for this goal is a report to the Governor and legislature laying out specific elements that should be included in contingency plans.

DWR compiled a list of studies and reports to inform the summary report and CDAG members were given an opportunity to add to the list during and after Meeting 1. DWR reviewed the list of recommended reports as part of a literature review. The literature review report, which was provided to participants, synthesized the findings from the literature into nine topics:

1. Funding and financing
2. Data and Tools
3. Outreach and education
4. Technical assistance and capacity building
5. Regional planning and coordinated communication
6. Land-use plans
7. Consolidation
8. Rate restructuring
9. Human right to water

Ms. Benin noted that the group discussions about the literature review would inform the framing and defining of issues in the final report to the Governor and legislature.

Literature Review Findings – Small Group Discussions

Participants split into six small groups to discuss the literature review findings. The groups were provided with tables listing all recommendations sorted by topics and were asked to comment, modify, and add to the lists. Each group was asked to choose and review at least three of the nine topics of the literature review findings.

Report Back and Additional Feedback

After discussing in small groups for one hour, the CDAG reconvened for a report back about their discussions. Each of the six groups noted highlights from their discussion.

The Community Water Systems group for 15-200 service connections discussed funding and financing, human right to water, and consolidation. The group suggested the following:

- Develop expedited funding mechanisms for small systems.
- Provide block grants so that multiple systems with similar needs can collaborate to complete a single application.
- When providing funding to larger water systems, add conditions to the funding requiring that they assist small water systems to support implementation of the human right to water.
- Conduct overall water distribution system assessments to ensure that water is being used efficiently.
- Feasibility analysis is needed when systems apply for funding related to consolidation.
- Managerial and technical consolidation is needed.

- Implement an advanced funding regime such as that used in IRWM.
- Provide principle debt forgiveness on debt related to gap funding.
- Pre-approve work plans for small systems to ensure that funding can be disbursed quickly.

The first of two groups considering the perspective of Community Water Systems with 200-3000 service connections focused on revenue stability within the funding and finance category. The group noted that water systems need to achieve revenue stability, taking in the same amount of money in drought years as in wet years, despite the difference in the amount of water sold across the years. The group noted that the burdens of Proposition 218 tend to be harder for small utilities to bear because they are often unable to carry out sophisticated studies of cost of services that allow them to implement effective revenue stability measures like drought surcharges. The group said that the legislature should provide guidance about how rate structures can be implemented that can provide revenue stability within the confines of Proposition 218. The group suggested providing support for cost of service studies so that water systems can develop rate changes that do not unduly burden low-income and low-volume users, for example through excessive use fines or volumetric surcharges.

The second of the two groups considering the perspective of Community Water Systems with 200-3000 service connections reported back on their discussion of funding and financing and regional planning. They noted the following:

- There is a significant amount of funding that is allocated to support disadvantaged communities (DACs) and could help small water systems, but these systems do not have the capacity to go through the funding process. Funding should be tailored and streamlined for small agencies.
- Technical assistance should be provided to smaller water systems to complete effective water needs assessments in order to identify the investments they need to make.
- It will take many years to improve and stabilize many of the small water systems around the state; identify long-term leaders in each watershed to facilitate the process over time.

The Domestic/Self-Supplied Communities group (less than 5 service connections) discussed funding and financing, data and tools, and consolidation. They provided the following feedback:

- Add language about domestic/self-supplied communities (most of the language was oriented toward water systems).
- Ensure that metrics used to quality households for water affordability assistance programs include those on private domestic supplies. Water bills may not be an adequate metric because these people may not pay a water bill.

- Coordinate efforts with implementation of Assembly Bill 1755, the Open and Transparent Water Data Act to coordinate statewide information about populations vulnerable to drought risk.
- Adopt a single, consistent set of performance indicators and metrics, formatting data for with consistent metadata for interoperability.
- Adaptive, dynamic assessment of drought risk is a great idea and could provide information about strategies that are or are not working during a drought so that adaptation can become both proactive and reactive. Some assessments should continue during non-drought years.
- Consolidation should include adding service extension to domestic/self-supplied communities.

The Tribal Households and Systems group discussed funding and financing, data and tools, and regional planning and coordinated communication. The group made the following suggestions:

- Support the effort to increase funding allocations to the Tribal and Indian Set-Aside programs of the Safe Drinking Water Act and the Clean Water Act.
- Improve Tribal access to State funding by eliminating language requiring waivers of sovereign rights by Tribes, or by re-routing funding through federal partners, like the IHS, or other organizations, like the California Rural Water Association (Cal Rural).
- Consistent indicators should extend to Tribal water systems, which should be treated and measured in the same way that non-Tribal water systems are.
- Tribal data should be administrated by IHS or another non-State and non-County entity, due to lack of trust between Tribes and the State.
- Help information flow freely by giving Tribes various options for who to report through so that they may work with entities with which they have built trust.

The State Smalls (5-14 service connections) group discussed funding and financing, data and tools, and consolidation. Their report back focused on the highlights of their funding and financing discussion:

- There is a need to identify the State Small Water Systems (SSWS) that exist around the State through a data system that includes where they are located and how many people they serve.
- Develop a data system for SSWSs that is similar to the data system used for public water systems and identify an entity to oversee the data system.
- Strong statewide statutory requirements for oversight of the SSWSs is needed, both to properly identify them and to ensure a consistent level of effort is devoted to each.
- There is a need to identify funding mechanisms for the SSWSs, which can be a challenging issue for those water systems that are privately-owned.

- Drought contingency planning for SSWSs, including solutions such as consolidations, is needed.
- Income surveys already adequately meet the need to identify income and demographics; better income surveys are not necessary.
- Metrics used to define disadvantaged communities should be consistent across programs and agencies; do not develop drinking water-specific DAC metrics.
- Funding applications should be consistent across agencies, especially with regard to requirements for technical reports, income surveys, etc.
- A climate change and drought model that has agreement across agencies is needed, so that agencies have a consistent understanding of areas with vulnerabilities.

A participant made an additional comment referring back to the presentation and discussion about vulnerability factors and risk indicators. He suggested that the risk indicators be organized into a decision tree with a progression of questions, each contingent on the answer preceding it, to determine risk. The participant said that there are existing decision tree models which could be built upon, for example those used by Cal Rural and Indian Health Services (IHS).

Ms. Benin said that DWR would compile all of the feedback provided through the group discussions, identify issues that need to be addressed, and ultimately use the discussion to provide background in the final report providing recommendations to the Governor and legislature. She said that the next CDAG meeting would focus on what should be included in WSCPs, as well as progress on the datasets and indicators. Ms. Benin said that CDAG members would be sent four existing guidebooks for water contingency plans.

What is Most Important for DWR to Take Away from this Meeting?

Fethi BenJemaa, manager of the Drought Contingency Planning and Special Projects section of the Water Use and Efficiency branch, DWR, thanked participants for their feedback. He noted that they were looking at a range of indicators and factors for drought risk and water shortage vulnerability and issues surrounding planning needs for small water suppliers and rural communities. He highlighted the two legislative mandates that are the focus of the work of CDAG, identifying communities at risk and providing recommendations and guidance on elements that should be included as part of WSCPs for these communities. Mr. BenJemaa noted that feedback from CDAG would help prioritize the elements most relevant and important to WSCPs, and that the report back from the literature review discussions made clear that funding and financing is one of the most important aspects.

Mr. BenJemaa asked participants to share what they considered the most important feedback that DWR should take away from the meeting as they move forward with the development of both deliverables.

A participant said that consideration for the roles and responsibilities of different entities is crucial, especially when developing regional solutions to support smaller, more vulnerable water systems.

A participant emphasized that there are many parallel efforts around drought risk and water shortage vulnerability, including an assessment by the SWRCB as well as regional efforts like the water replenishment district in East Los Angeles. These efforts provide examples of cohesive efforts that the legislature can look to for models.

Wrap Up and Closing Comments

Ms. Benin said that comments provided at the meeting would be compiled and shared, and invited participants to provide additional feedback or resources, such as other water contingency guidebooks that should be included. She noted that the project team is committed to ensuring that the process and the data informing it is as open and transparent as possible.

Ms. Benin thanked attendees for their participation and reminded them that the next CDAG meeting is scheduled for April 30, 2019.

The meeting was then adjourned.

County Drought Advisory Group – Meeting Participation

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Abe Serrano	Water UX
Adan Ortega	California Association of Mutual Water Companies
Alesandra Najera	Water Foundation
Amanda Pend	University of California, Davis
Ari Neumann	Rural Community Assistance Corp
Betsy Lichti	State Water Resources Control Board (SWRCB)
Bruce Gibson	California State Association of Counties, County of San Luis Obispo
Carolina Balazs	CalEPA Office of Environmental Health Hazard Assessment
Chris Brady	Indian Health Services
Colin Bailey	Environmental Justice Coalition for Water
Dustin Hardwick	California Rural Water Association
Eagle Jones	Pechanga Tribal Government
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Michelle Frederick	State Water Resources Control Board (SWRCB)
Mike McGill	California Association of Local Agency Formation Commissions
Mladen Bandov	County of San Luis Obispo
Nell Green Nylen	Wheeler Water Institute at the Center for Law, Energy & the Environment (UC Berkeley School of Law)
Nicholas Schneider	Mojave Water Agency
Nirmala Benin	Department of Water Resources (DWR)
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